

**REMARKS**

The Examiner's recognition of Applicant's invention by the prompt allowance of claims 11 through 17 is gratefully acknowledged.

The specification has been amended at paragraph [0012] to recite that suitable heat sinks for use in Applicant's invention include brackets, consistent with claim 9 as originally filed.

***Objection to Drawings***

The drawings are objected to under 37 C.F.R. § 1.83(a). In particular, the objection states that the Figures do not specifically show a heat rail or bracket, features recited in claims 8 and 9 originally filed in the case.

Applicant has described and claims an electronic assembly that includes a heat sink. Figures 1 and 2 depict a preferred embodiment of the present invention in which heat sink 14 is a case 18. However, Applicant teaches, at paragraph 12, and the skilled practitioner would readily appreciate, that Applicant's invention may use any suitable heat sink, and may be a heat rail or bracket (added by amendment supported by original claim). Original claims 8 and 9, which raised the present objection, were directed to a heat sink that is a heat rail or bracket. Applicant contends that such subject matter is within the scope of the heat sink recited in claim 1, upon which claims 8 and 9 are dependent. Nevertheless, claims 8 and 9 are now cancelled in response to the objection. This action is being taken solely for the purpose of overcoming the objection to the drawings, and not in any way to limit the scope of claim 1, in which heat sink is fairly read to include heat rails and brackets, consistent with the understanding in the art and the teachings of the specification.

In view of the foregoing, it is respectfully requested that the objection to the drawings be withdrawn.

*Claim Rejection under 35 USC § 102(b)*

Claims 1-7 and 10 have been rejected under 35 U.S.C. § 102(b) as being anticipated by United States Patent No. 5,985,697 issued to Chaney et al. in 1999.

The rejection points particularly to Fig. 3 of Chaney et al., which shows a mounting apparatus 300 that includes a support structure, i.e., support members 324, for a cooling device 320 on a printed circuit board 302. With regard to mounting of the chip, circuit chip 310 is attached to a cooling device 320 using a uniform layer of thermally conductive adhesive 322, see column 6, lines 23-32. See also Fig. 2A and col. 4, lines 58-63. The thermal adhesive is comparable to the prior art adhesive 122 for attaching chip 104 to heat sink 108, as shown in Fig 1, designated Prior Art, column 1, lines 45-51. Thus, Chaney et al. contemplates a conventional thermal adhesive, such as is formed by a uniform material cured in a single step. Nothing in the reference teaches or suggests an adhesive layer that includes distinct regions of adhesive material that are cured at different times.

In contrast, Applicant's invention includes at least two, distinct thermal adhesive members within the gap between the heat generating component and the heat sink. In particular, the gap contains a pre-cured adhesive member that is formed prior to assembly of the component to the heat sink, see paragraph 15, and also a post-cured adhesive member that is after assembly, see paragraph 16. The rejection erroneously alleges that the time of curing is not important since the final product only contains cured material. However, Applicant discloses that the use of pre-cured adhesive provides improved dimensional control of the physical barrier, paragraph 16, last

sentence. Moreover, the pre-cured member is readily distinguished from the post-cured member that bonds to both the heat generating component and the heat sink to form the assembly. Thus, the product is readily distinguished from the prior art, such as Chaney et al., which does not teach or suggest a pre-cured adhesive member that provides gap control, as opposed to the post-cured material that bonds the elements.

The rejection also points to Applicant's Admitted Prior Art on page 2 and uses the same approach in rejecting claim 1. However, like Chaney et al., the prior art described by Applicant uses a common layer of a uniform adhesive material that is cured, following assembly to bond the heat generating device to the heat sink. Also like Chaney et al., the method described by Applicant does not include pre-cured adhesive member that is found as a distinct member in the final product to provide gap control and is distinguished from the post-cured adhesive member that bonds the elements into the final product.

Thus, the cited art, whether Chaney et al. or Applicant's description of conventional assemblies, shows only assemblies having uniformly cured adhesive layers. Nothing in the art contemplates the presence of pre-cured member. Thus, the art cannot teach or suggest Applicant's invention.

Claim 1 is directed to Applicant's electronics assembly that includes, in addition to a post-cured thermal adhesive member, at least one pre-cured adhesive member within the gap between the heat generating component and the heat sink. The cited art shows only a post-cured adhesive member. Nothing in the cited art shows a pre-cured adhesive member. Therefore, the art does not show Applicant's invention as set forth in claim 1.



Claims 2-7 and 10 are dependent upon claim 1 and not taught or suggested for the reasons set forth with regard to that claim.

Accordingly, it is respectfully requested that the rejection of claims 1-7 and 10 be reconsidered and withdrawn, and that the claims be allowed, along with allowed claims 11-17, and that the case proceed to issue.

*Conclusion*

It is believed, in view of the amendments and remarks herein, that all grounds of rejection of the claims have been addressed and overcome, and that all claims are in condition for allowance. If it would further prosecution of the application, the Examiner is urged to contact the undersigned at the phone number provided.

The Commissioner is hereby authorized to charge any fees associated with this communication to Deposit Account No. 50-0831.

Respectfully submitted,

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